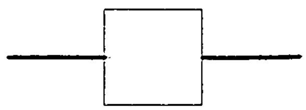
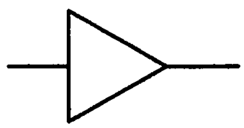
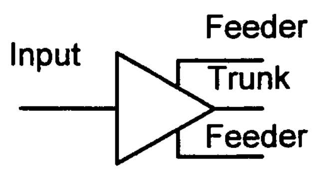
GLOSSARY



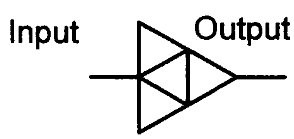
Subscriber taps. Used to couple power from main line to two to eight subscriber ports. In two-way systems, subscriber ports are used as insertion points where upstream signals are combined into the composite upstream spectrum.



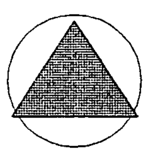
Amplifier (generic). May represent either a gain block or a complete coaxial amplifier station, dependening on context. If used to represent an amplifier station, the symbol may represent either a one or two-way unit. Also may represent an optical amplifier.



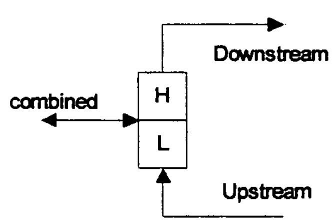
Multiple output coaxial amplifier station. May be either a trunk/ bridger or system amplifier. Where there is a center output, it will be the trunk, and may operate at a lower level to reduce composite distortions.



Two-way coaxial amplifier station. The larger triangle represents the downstream direction, and the smaller triangle indicates the upstream direction. Note that, by convention, "input" and "output" port designation are used that are correct only for downstream transmission.



Headend. The point where most of the signal processing is done in a cable system.



Diplex filter. Used to seperate an incoming spectrum into two outputs, with frequencies exceeding some value exiting one port, while frequencies below that frequency exit the other port. The most common use is to seperate upstream from downstream frequencies in amplifier stations. Can be used as a combiner in reverse.

Attenuator. Used to attenuate an RF spectrum by a value that is nominally independent of frequency.

Figure 1. Cable System - Prior Art

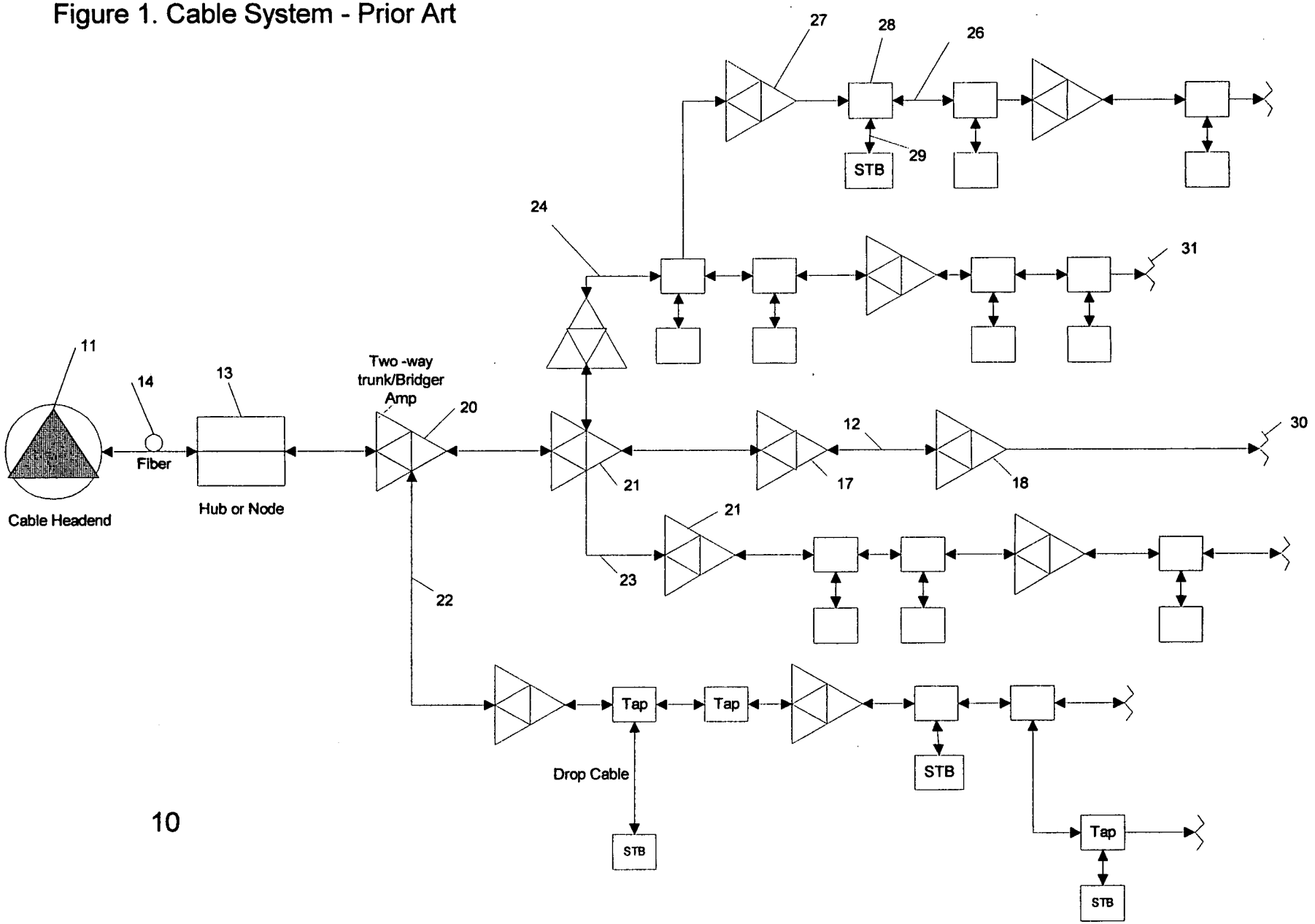


Fig. 2 - Prior Art

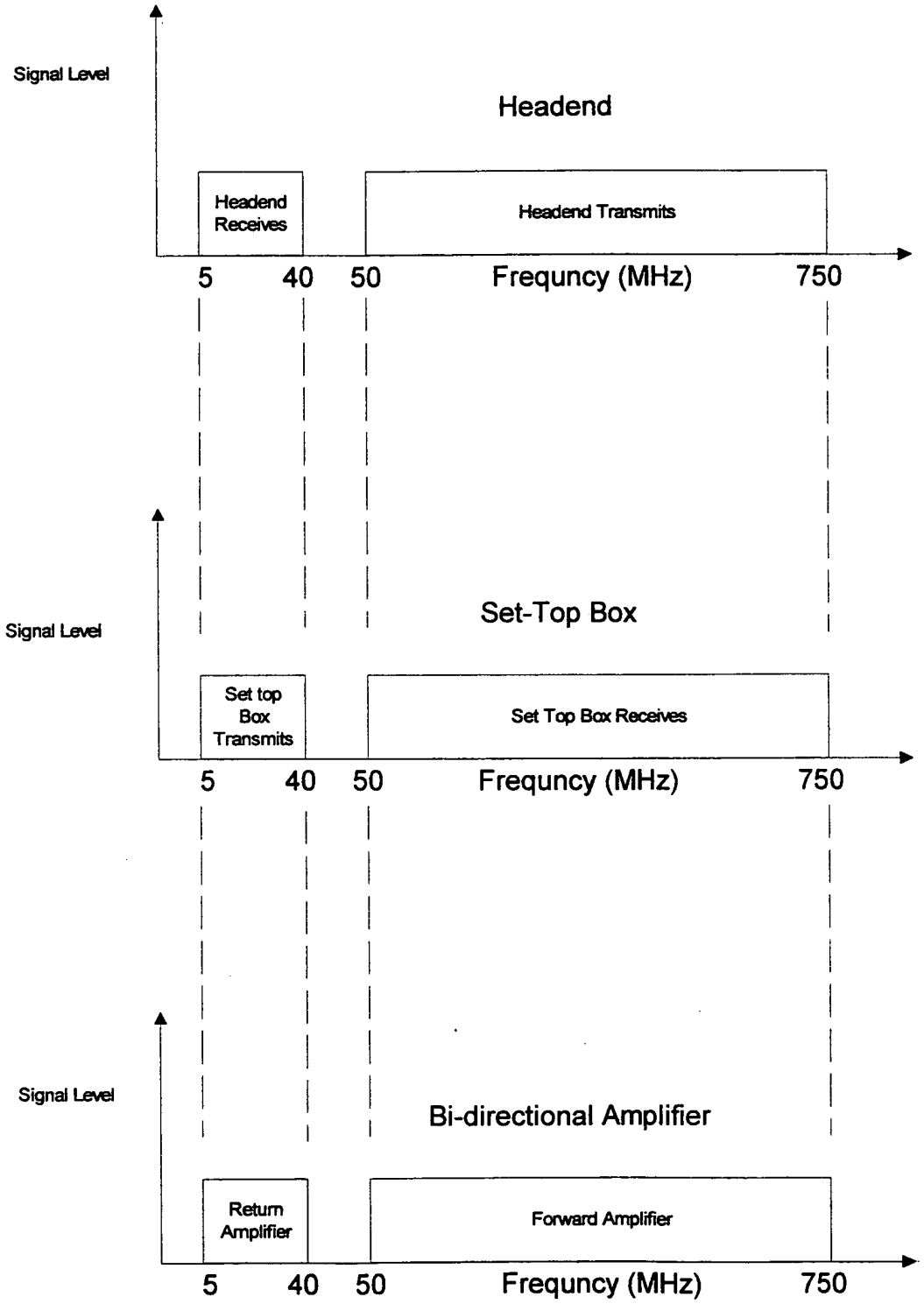


Fig. 3

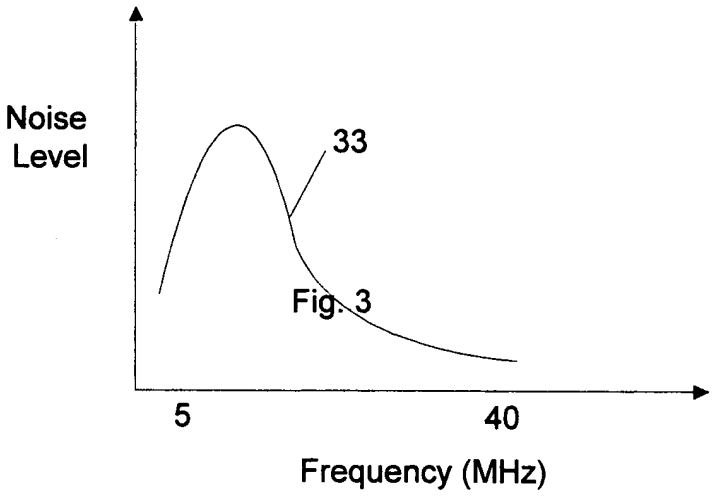

Noise Level
33
Fig. 3
5
40
Frequency (MHz)

Fig. 6

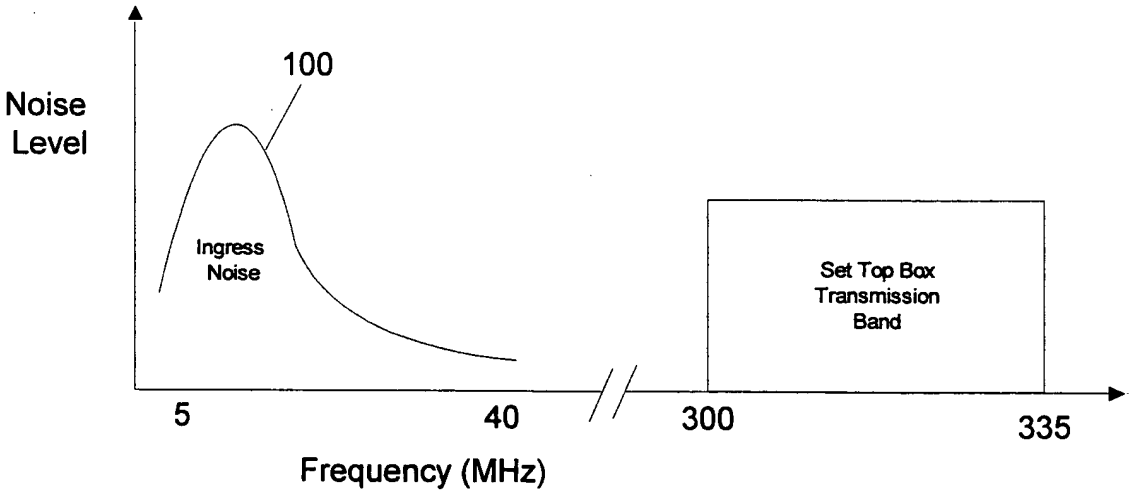

Noise Level
100
Ingress Noise
Set Top Box Transmission Band
5
40
300
335
Frequency (MHz)

Figure 4.

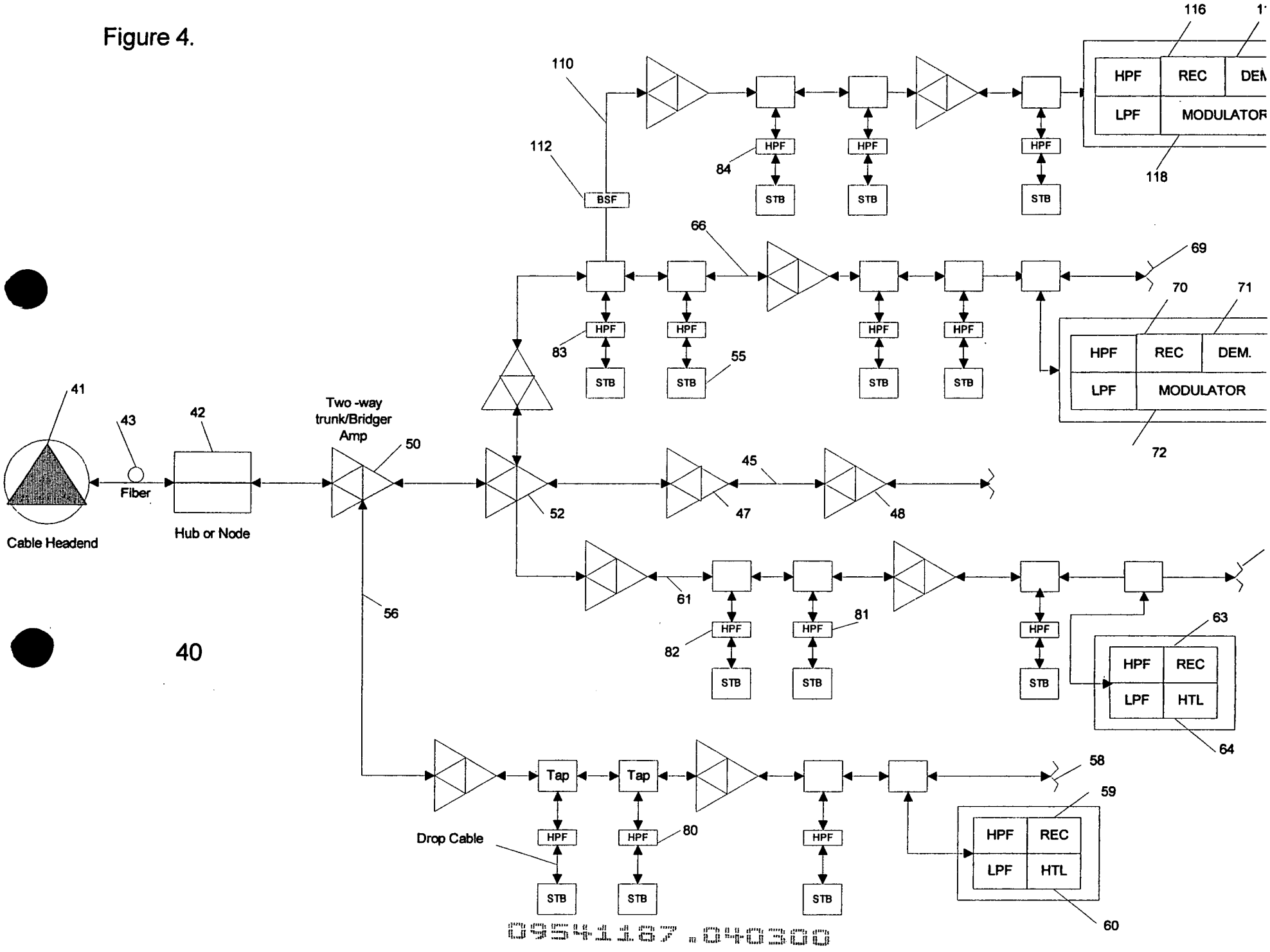

40
41
43
42
Two -way trunk/Bridger Amp
50
Fiber
Cable Headend
Hub or Node
52
45
47
48
56
110
112
BSF
84
HPF
STB
116
118
HPF
REC
LPF
MODULATOR
66
69
70
71
83
55
DEM.
72
61
82
81
63
64
LTL
58
59
60
Tap
Drop Cable
80

Fig. 5

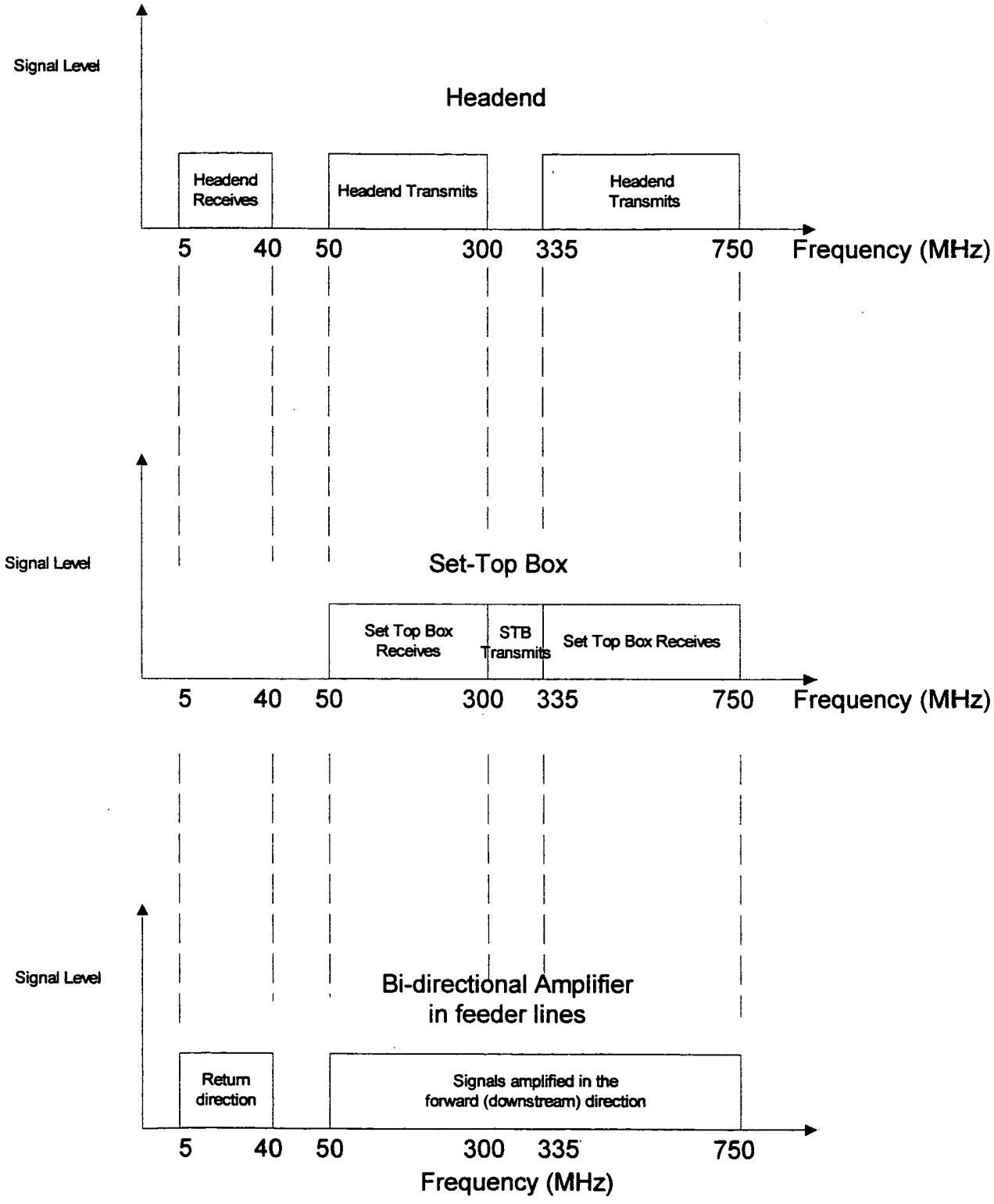

Signal Level
Headend
Headend Receives
Headend Transmits
Headend Transmits
5
40
50
300
335
750
Frequency (MHz)
Signal Level
Set-Top Box
Set Top Box Receives
STB Transmits
Set Top Box Receives
5
40
50
300
335
750
Frequency (MHz)
Signal Level
Bi-directional Amplifier in feeder lines
Return direction
Signals amplified in the forward (downstream) direction
5
40
50
300
335
750
Frequency (MHz)

Fig. 7

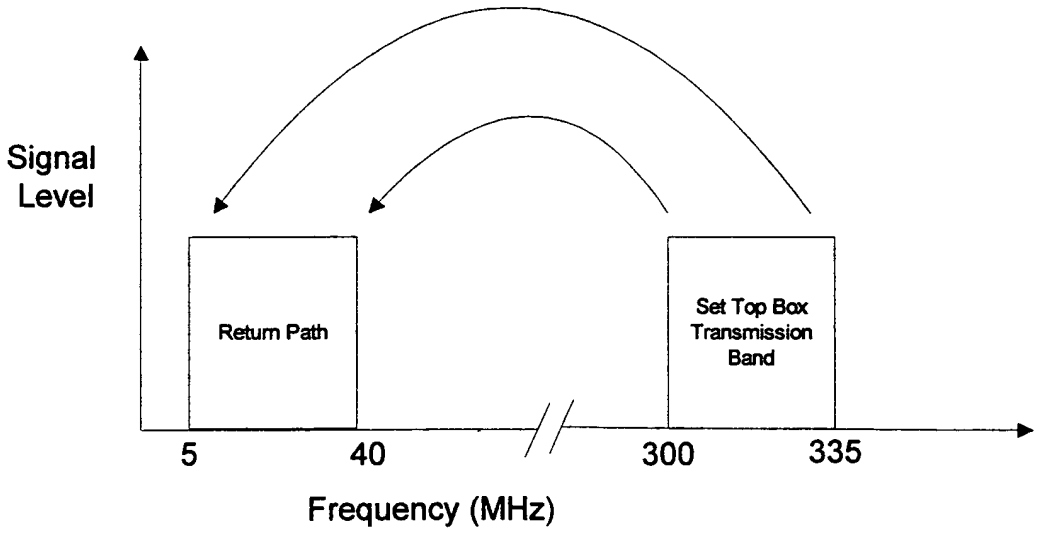

Signal Level
Return Path
Set Top Box Transmission Band
5
40
300
335
Frequency (MHz)

Fig. 8

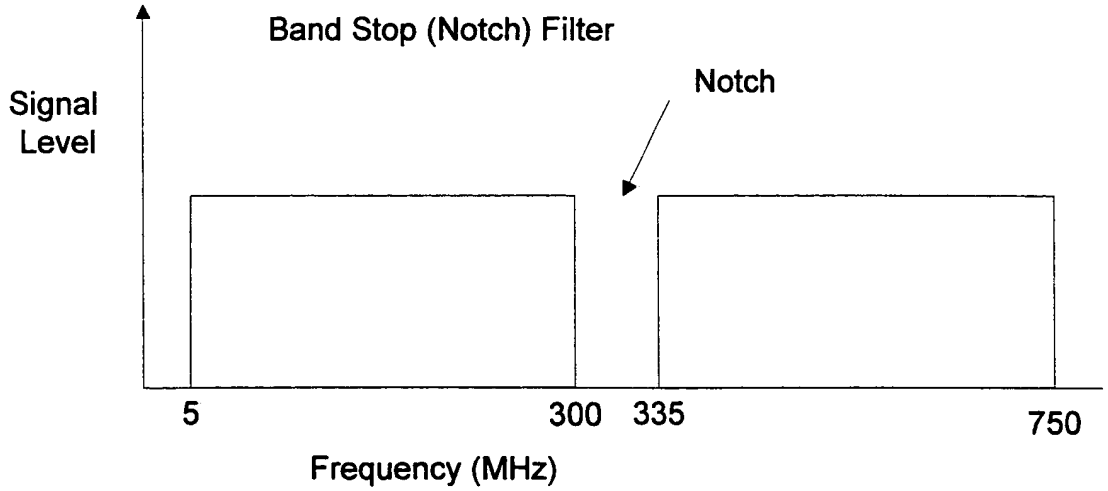

Band Stop (Notch) Filter
Signal Level
Notch
5
300
335
750
Frequency (MHz)

Fig. 9 - Prior Art Set Top Box

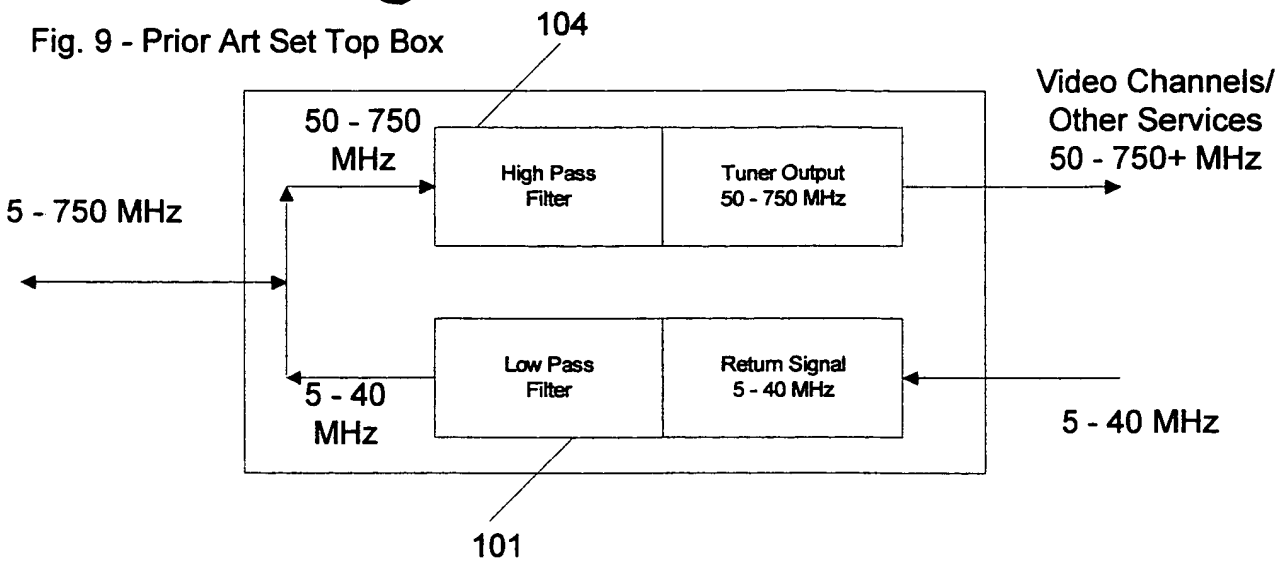


Fig. 10 - Set Top Box

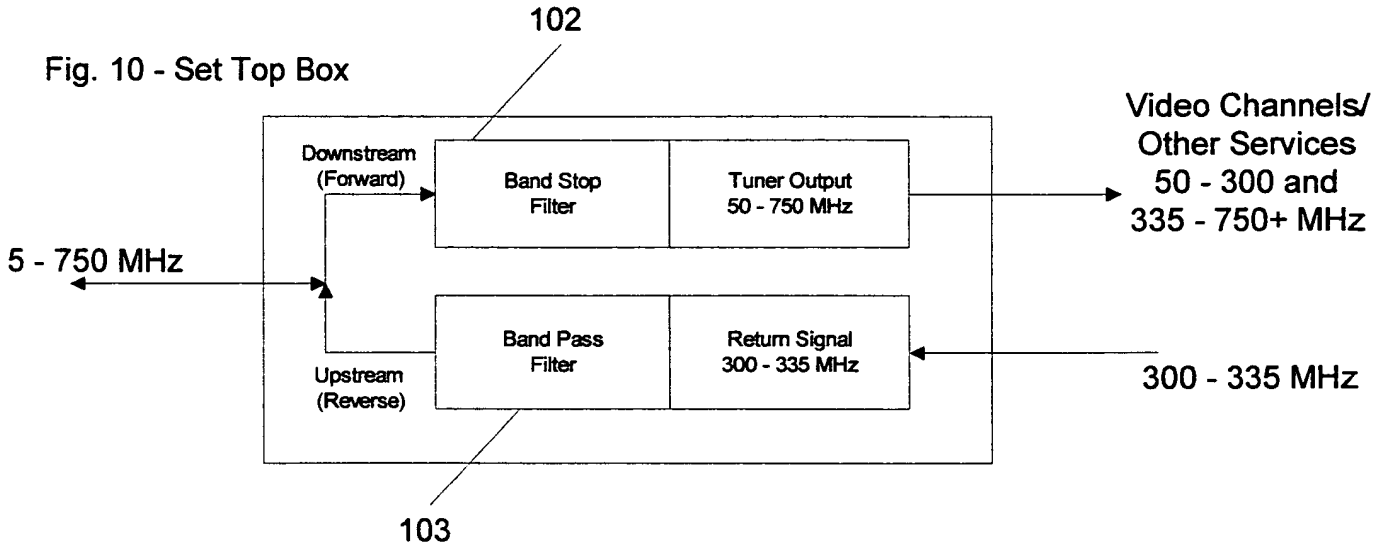


Fig. 11 - Set Top Box